

CLAIMS

1. An aqueous solution of a chromium salt, wherein the oxalic acid content is 8% by weight or less relative to chromium.
2. The aqueous solution of the chromium salt according to Claim 1, wherein the total organic carbon content is 4% by weight or less relative to chromium.
3. The aqueous solution of the chromium salt according to Claim 1, wherein the chromium salt is a chromium chloride.
4. The aqueous solution of the chromium salt according to Claim 3, wherein the aqueous solution contains a basic chromium chloride represented by the composition formula $\text{Cr}(\text{OH})_x\text{Cl}_y$ (wherein $0 < x \leq 2$, $1 \leq y < 3$, and $x + y = 3$).
5. The aqueous solution of the chromium salt according to Claim 4, wherein the specific gravity at 20°C is 1.35 to 1.44, and the molar ratio (Cl/Cr) of chlorine to chromium is 1 or more and less than 3.
6. The aqueous solution of the chromium salt according to Claim 4, wherein the concentration in terms of Cr is 8.2% to

14% by weight.

7. The aqueous solution of the chromium salt according to Claim 3, wherein the concentrations of impurity metal ions in the aqueous solution satisfy $\text{Na} \leq 30 \text{ ppm}$ and $\text{Fe} \leq 20 \text{ ppm}$, the concentrations being calculated on the basis of 40% by weight in terms of CrCl_3 .

8. The aqueous solution of the chromium salt according to Claim 3, wherein the aqueous solution contains substantially no free chlorine ions not bonded with Cr.

9. The aqueous solution of the chromium salt according to Claim 1, wherein the chromium salt is a chromium phosphate represented by the composition formula $\text{Cr}(\text{H}_{3-3/n}\text{PO}_4)_n$ (wherein n is a number satisfying $2 \leq n \leq 3$).

10. The aqueous solution of the chromium salt according to Claim 9, wherein the concentrations of impurity metal ions in the aqueous solution satisfy $\text{Na} \leq 30 \text{ ppm}$ and $\text{Fe} \leq 20 \text{ ppm}$.

11. The aqueous solution of the chromium salt according to Claim 9, wherein the contents of impurity anions in the aqueous solution satisfy $\text{Cl} \leq 10 \text{ ppm}$ and $\text{SO}_4 \leq 100 \text{ ppm}$.

12. The aqueous solution of the chromium salt according to Claim 1, wherein the chromium salt is a chromium nitrate.

13. The aqueous solution of the chromium salt according to Claim 12, wherein the concentrations of impurity metal ions in the aqueous solution satisfy $\text{Na} \leq 30$ ppm and $\text{Fe} \leq 20$ ppm, the concentrations being calculated on the basis of 40% by weight in terms of $\text{Cr}(\text{NO}_3)_3$.

14. The aqueous solution of the chromium salt according to Claim 12, wherein the aqueous solution contains substantially no free nitrate ions not bonded with Cr.

15. A method for producing the aqueous solution of the chromium salt according to Claim 3,

the method comprising the steps of adding an organic reducing agent composed of a monohydric alcohol or a dihydric alcohol to an aqueous solution of chromic acid to reduce part of the chromic acid in advance in the first stage of reaction, and then mixing hydrochloric acid and the organic reducing agent and adding the mixture to the reaction solution to complete the reaction.

16. The method according to Claim 15, wherein the

monohydric alcohol or the dihydric alcohol is methanol, ethylene glycol, or trimethylene glycol.

17. The method according to Claim 15, wherein hydrochloric acid is added in an amount of 1 mole equivalent to 3 mole equivalents based on chromic acid.

18. A method for producing the aqueous solution of the chromium salt according to Claim 9,

the method comprising the step of adding phosphoric acid and at least one organic reducing agent selected from monohydric alcohols and dihydric alcohols to an aqueous solution of chromic acid.

19. The method according to Claim 18, wherein phosphoric acid is mixed to the aqueous solution of chromic acid, and then the organic reducing agent is added thereto.

20. A method for producing the aqueous solution of the chromium salt according to Claim 12,

the method comprising the step of adding nitric acid and an organic reducing agent separately and simultaneously to an aqueous solution of chromic acid.

21. The method according to Claim 20, wherein nitric acid

and the organic reducing agent are added such that the relationship $a < b$ is satisfied, wherein a is the theoretical amount of nitric acid required for converting chromic acid to chromium nitrate and b is the theoretical amount of the organic reducing agent required for reducing chromic acid.

22. The method according to Claim 20, wherein the organic reducing agent is a monohydric alcohol or a dihydric alcohol.

23. Crystals of a chromium salt, wherein the oxalic acid content is 2% by weight or less relative to chromium.